UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,045	01/29/2002	Lawrence Wilcock	1509-263	3640

22879 7590 12/05/2006

HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER	
SELLERS, DANIEL R	
ART UNIT	**PAPER NUMBER**
2615	

DATE MAILED: 12/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/058,045
Filing Date: January 29, 2002
Appellant(s): WILCOCK ET AL.

Randy Noranbreck
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 9/18/06 appealing from the Office action mailed 3/14/06.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The amendment after final rejection filed on 8/16/06 has not been entered.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6647119	Slezak, Mark R.	11-2003
5461399	Cragun, Brian J.	10-1995
6624826	Balabanovic, Marko	09-2003
5374924	McKiel, Jr., Frank A.	12-1994
5186629	Rohen, James E.	02-1993

Kyriakakis, C. et al, "Signal Processing, Acoustics, and Psychoacoustics for High Quality Desktop Audio," Journal of Visual Communication and Image Representation, Vol. 9, No. 1, March, pp. 51-61, 1998.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-3, 5, 6, 8, 13-15, 17, 19-25, 29-31, 33, 35-41, 45, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Slezak (USPN 6647119) and Cragun (USPN 5461399).

Regarding **claim 1**, Slezak teaches an audio user-interfacing method (Col. 1, lines 51-57; Col. 2, lines 9-30; and Col. 6, lines 41-45), wherein a synthesized sound source, representing a cursor, is moved in the audio field (Col. 9, lines 26-48; and Fig.

9). Slezak teaches item-representing sound sources (Col. 7, line 62 – Col. 8, line 17; and Fig. 6A-6B). However Slezak does not teach a cursor, wherein an audible indication is modified when the cursor comes close to an item-representing sound source.

Cragun teaches that an audible indication is modified when a cursor comes close to an item-representing sound source, wherein the sound emanates from at least one of the item-representing sound source and the cursor (Col. 6, lines 14-17; and Col. 6, line 55 – Col. 7, line 24). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Slezak and Cragun for the purpose of enhancing the usability of a data processing system for visually impaired users (Cragun, Col. 1, lines 10-14).

Regarding **claim 2**, the further limitation of claim 1, Cragun teaches audible indications that vary with changes in distance between sound source and the cursor (Col. 7, lines 19-24).

Regarding **claim 3**, the further limitation of claim 2, Cragun teaches that the audible indication is updated continuously with the cursor position (Col. 7, line 64 – Col. 8, line 13), which reads on an audible indication that is varied by changing a continuously-variable audio characteristic in correspondence with changes in distance between the sound sources and the cursor.

Regarding **claim 5**, the further limitation of claim 1, Cragun teaches a method that produces audible indications of direction, wherein the indication is indicative of the

direction of the item-representing sound source from the cursor (Col. 7, lines 34-45; and Col. 10, lines 9-15).

Regarding **claim 6**, the further limitation of claim 5, Cragun teaches the feature of continuously varying an audio characteristic to indicate the distance between a sound source and the cursor (see the preceding argument with respect to claim 2 and Col. 10, lines 4-8).

Regarding **claim 8**, the further limitation of claim 1, see the preceding argument with respect to claims 2, 5, and 6. The combination teaches the features of location by direction and distance within spatialized audio, wherein the user can appreciate if user-commanded cursor movement is moving the cursor closer to or further from the sound source (Col. 10, lines 4-15).

Regarding **claim 13**, the further limitation of claim 1, Cragun teaches a first, non-varying, element indicative of the general proximity of the cursor to an item-representing sound source (Col. 9, lines 14-38) and a second, continuously variable, element indicating distance (Col. 7, lines 19-24).

Regarding **claim 14**, the further limitation of claim 1, Cragun teaches that the user can control the cursor (Col. 6, lines 50-54).

Regarding **claim 15**, the further limitation of claim 1, Cragun teaches item-representing sound sources arranged in groups (Col. 10, lines 16-28) with a respective audio-field reference to which they are positioned and relative to the position of a cursor (see the preceding argument with respect to claims 2, 5, 6, and 8), and wherein the audio-field references are independently movable relative to a presentation reference

determined by a mounted configuration of audio output devices (Col. 9, line 64 - Col. 10, line 15 and Col. 7, lines 39-42). Cragun also teaches a user-controlled movement of the cursor in the audio field. Slezak teaches cursor sound source that is associated with another audio-field reference (Col. 9, lines 26-48; and Fig. 9).

Regarding **claim 17**, the further limitation of claim 1, see the preceding argument with respect to claim 1. The combination teaches a three-dimensional sound field, wherein it is inherent that the audio cues account for azimuth, elevation, and depth (Slezak, Col. 9, line 49 - Col. 10, line 15; Fig. 10; and Cragun, Col. 7, lines 39-42). The prior art discusses cues relating to distance, but it does not explicitly teach cues relating to depth. However, the prior art teaches directionality in three dimensions. Inherently, the three dimensions include depth of field, which reads on a direction towards and away from a user reference position (i.e. a user seated in front of a computer).

Regarding **claim 19**, the further limitation of claim 1, see Slezak

... including the further step of selecting an item by aligning the audio cursor with the corresponding item-representing sound source and providing a selection command input. (Col. 7, line 62 – Col. 8, line 8)

Slezak teaches selections, wherein selecting can activate highlighted text or buttons. This is implicitly performed with the cursor.

Regarding **claim 20**, the further limitation of claim 19, see the preceding argument with respect to claims 1, 13, and 19, the combination teaches audio labels for services (Cragun teaches classes, Col. 8, lines 41-53; and Col. 9, lines 3-26), wherein a service is selected by selecting the audio label with the audio cursor.

Regarding **claim 21**, see the preceding argument with respect to claim 1. The combination of Slezak and Cragun teaches an apparatus comprising a rendering position determining means (Cragun, Fig. 2, units 52, 54, 60, and 64 and Fig. 5b, step 116). The rendering position determining means, as taught by Cragun, is an equivalent to the means as claimed, wherein it is inherent that a memory is used to hold a position of each sound source and a position of the cursor, so that it can "calculate the locational modifiers for each audio signal associated with displayed objects, ... relative to the pointer position", which is a user-controlled pointer (Col. 9, lines 53-56; Fig. 5b, step 116; and Col. 6, lines 50-54). Next, Cragun teaches that a composite audio signal is output (Col. 10, lines 46-50; and Fig. 5b, step 126), which can be three dimensional (Col. 7, lines 39-42).

Slezak teaches a cursor control means (Col. 9, lines 26-48), wherein a mouse, joystick, or roller ball, as taught by Slezak, inputs a relative adjustment to the on-screen cursor. A relative adjustment to an on-screen cursor inherently utilizes a memory to store a position, or relative position, which reads on the claimed cursor control means.

Slezak teaches a rendering means, including audio output devices (Slezak, Fig. 10, unit 294 and the corresponding circles; and Col. 10, lines 5-15). Slezak teaches an audio field where item-representing sound sources (294 and the plurality of circles in Fig. 10) are synthesized at their associated rendering positions and output through speakers. The combination of Slezak and Cragun teaches that the item-representing sound sources and the cursor are output at their associated positions.

Lastly, Cragun teaches a cursor proximity means (Col. 7, lines 19-33), wherein the item-representing sound sources are modified by the relative location of the user-controlled cursor.

Regarding **claim 22**, the further limitation of claim 21, see the preceding argument with respect to claim 2. The combination teaches these features.

Regarding **claim 23**, the further limitation of claim 21, see the preceding argument with respect to claim 5. The combination teaches these features.

Regarding **claim 24**, the further limitation of claim 21, see the preceding argument with respect to claim 8. The combination teaches these features.

Regarding **claim 25**, the further limitation of claim 21, Cragun teaches that the audible indication is provided solely through modifying the sounds emanating from the item-representing sound source (Col. 9, lines 3-38 and lines 56-63).

Regarding **claim 29**, the further limitation of claim 21, see the preceding argument with respect to claim 13. The combination teaches these features.

Regarding **claim 30**, the further limitation of claim 21, see the preceding argument with respect to claim 14. The combination teaches these features.

Regarding **claim 31**, the further limitation of claim 21, Slezak teaches means for setting the location of the cursor sound (Col. 9, lines 45-48 and Fig. 1, unit 42).

Slezak teaches user input means (Col. 9, line 49 – Col. 10, line 19), wherein it controls an offset between the audio-field reference and a presentation reference (Slezak teaches a graphical representation of the audio field, wherein the graphical

representation is rotatable for ease of use, Col. 9, lines 49-66, and the presentation reference is fixed by the static location of speakers, Col. 10, lines 5-9).

Lastly, Cragun teaches means for deriving the rendering positions (Col. 7, lines 34-52).

Regarding **claim 33**, the further limitation of claim 21, see the preceding argument with respect to claims 17 and 21. The combination teaches these features.

Regarding **claim 35**, the further limitation of claim 21, see the preceding argument with respect to claim 19. The combination teaches these features.

Regarding **claim 36**, the further limitation of claim 35, see the preceding argument with respect to claim 20. The combination teaches these features.

Regarding **claim 37**, see the preceding argument with respect to claim 21. The combination teaches these features.

Regarding **claim 38**, the further limitation of claim 37, see the preceding argument with respect to claim 22. The combination teaches these features.

Regarding **claim 39**, the further limitation of claim 37, see the preceding argument with respect to claim 23. The combination teaches these features.

Regarding **claim 40**, the further limitation of claim 37, see the preceding argument with respect to claim 24. The combination teaches these features.

Regarding **claim 41**, the further limitation of claim 37, Cragun teaches that the audible indication is provided solely through modifying the sounds emanating from the item-representing sound source (Col. 9, lines 3-38 and lines 56-63).

Regarding **claim 45**, the further limitation of claim 37, see the preceding argument with respect to claim 29. The combination teaches these features.

Regarding **claim 46**, the further limitation of claim 37, see the preceding argument with respect to claim 30. The combination teaches these features.

Claims 4, 7,11, 18, 27, 34, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Slezak and Cragun as applied to claim 2 above, and further in view of Balabanovic, (USPN 6624826).

Regarding **claim 4**, the further limitation of claim 2, see Balabanovic

...,wherein said audible indication is varied by changing a spoken element to indicate the distance between said item-representing sound source and the cursor. (Col. 13, line 43 – Col. 14, line 14)

The combination teaches the features of claim 2, and teaches that audible indications are varied to indicate distance. Cragun teaches that prior art has used spoken elements to announce the contents of a message box (Col. 3, lines 29-46), however the combination does not teach a spoken element to indicate distance. Balabanovic teaches a browsing system wherein a three-dimensional audio space can be explored and teaches that the loudness can be varied proportional to the distance from the sound source. Balabanovic teaches that a narration, recorded by an author (Col. 13, lines 50-52), can be played back as a user approaches a three-dimensional figure (Col. 13, lines 61-64). This teaching and the teachings of the combination of Slezak and Cragun, which allows a visually impaired user to utilize a graphical interface with audio cues, allows a visually impaired person to navigate a three dimensional space in order to listen to an authors narration. It would have been obvious for one of ordinary skill in the

art to combine the teachings of Slezak, Cragun, and Balabanovic for the purpose of creating an easier to use interactive multimedia system.

Regarding **claim 7**, the further limitation of claim 5, see the preceding argument with respect to claim 4. The combination teaches these features.

Regarding **claim 11**, the further limitation of claim 8, see the preceding argument with respect to claims 8 and 4. The combination teaches a system that provides for three-dimensional spatial cues, wherein Balabanovic teaches a proximity system, wherein the audio is changed depending on varying levels of distance (Col. 13, lines 34-40).

Regarding **claim 18**, the further limitation of claim 1, Balabanovic teaches a threshold distance (Col. 13, lines 34-40 and Fig. 7), and the combination of Slezak and Cragun teaches user movable sound sources, so it would have been obvious to allow the user to control the thresholds in the combination so as to provide a customizable interface (Slezak, Col. 10, lines 16-19).

Regarding **claim 27**, the further limitation of claim 24, see the preceding argument with respect to claims 11, 21, and 24. The combination of Slezak, Cragun, and Balabanovic teaches these features.

Regarding **claim 34**, the further limitation of claim 21, see the preceding argument with respect to claims 18 and 21. The combination teaches these features.

Regarding **claim 43**, the further limitation of claim 40, see the preceding argument with respect to claims 11, 37, and 40. The combination teaches these features.

Claims 10, 26, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Slezak and Cragun as applied to claim 1 above, and further in view of McKiel, Jr., (USPN 5374924) (hereinafter McKiel):

Regarding **claim 10**, the further limitation of claim 1, see Slezak

... wherein said audible indication is provided solely through modifying the sounds emanating from the cursor. (Col. 9, lines 29-48)

The combination teaches the features of claim 1, and Slezak teaches an audible indicator for just the cursor, however neither Slezak nor Cragun teach modifying the audible indication of the cursor. McKiel teaches an audible indicator which modifies the sounds emanating from the cursor (Col. 4, lines 8-31). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Slezak, Cragun, and McKiel for the purpose of providing a better user experience. The user experience is enhanced by feedback of the global position of the cursor within the audio field, thereby allowing users to find item-representing sound sources easier (McKiel, Col. 2, lines 56-69).

Regarding **claim 26**, the further limitation of claim 21, see the preceding argument with respect to claims 10 and 21. The combination teaches these features.

Regarding **claim 42**, the further limitation of claim 37, see the preceding argument with respect to claims 10 and 37. The combination teaches these features.

Claims 12, 28, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Slezak and Cragun as applied to claim 1 above, and further in view of Rohen, U.S. Pat. No. 5,186,629.

Regarding **claim 12**, the further limitation of claim 1, see Rohen

... wherein the said audible indication is used to signal to the user when the said item-representing sound source and cursor are coincident, at least in terms of their direction from a user reference location. (Col. 3, lines 1-11 and Col. 8, lines 19-29)

Slezak teaches the features of claim 1, however Slezak does not teach a sound indicator with these features. Rohen teaches an audible indicator when the sound source and cursor are coincident. It would have been obvious for one of ordinary skill in the art to combine the teachings of Slezak, Cragun, and Rohen for the purpose of providing better accessibility to the handicapped.

Regarding **claim 28**, the further limitation of claim 21, see the preceding argument with respect to claims 12 and 28. The combination teaches these features.

Regarding **claim 44**, the further limitation of claim 37, see the preceding argument with respect to claims 12 and 37. The combination teaches these features.

Claims 16 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Slezak and Cragun as applied to claim 15 above, and further in view of admitted prior art, "Signal Processing, Acoustics, and Psychoacoustics for High Quality Desktop Audio" by Kyriakakis et al. (hereinafter Kyriakakis).

Regarding **claim 16**, the further limitation of claim 15, see Kyriakakis

... wherein the cursor-associated audio field reference is stabilised relative to one of:
a user's body;
a user's head;
this stabilisation taking account of whether audio output devices used to synthesise the sound sources are world, body or head mounted, and, as appropriate, rotation of the user's head or body. (pp. 56-59, Desktop Audio System with Head Tracking)

The combination of Slezak and Cragun teaches the features of claim 15, but does not teach a head tracking system. Kyriakakis teaches head tracking to compensate for the movements of a listener, wherein the stabilization takes into account that the sound sources are world mounted (i.e. produced by fixed speakers, see Fig. 6) and a rotation of the user's head and/ or body has occurred (i.e. head movement can be caused by either rotation of the head or body, see Fig. 6). It would have been obvious for one of ordinary skill in the art to combine the teachings of Slezak, Cragun, and Kyriakakis for the purpose of stabilizing the sound field. One of ordinary skill at the time of the invention can recognize that it would be advantageous to stabilize the sound field with respect to the location or position of the head of the user, so that a user can find a comfortable posture and still have the same indication of distance between the cursor and the item-representing sound sources.

Regarding **claim 32**, the further limitation of claim 31, see the preceding argument with respect to claims 16 and 31. The combination teaches these features.

(10) Response to Argument

A. Claims 1, 21, and 37 are rejected under 35 USC 103 as being unpatentable over the combination of Slezak in view of Cragun. The reason for combining the art of Slezak and the art of Cragun is introduced in the grounds of rejection as stated above,

and was unintentionally missing from the Final Office Action mailed 3/14/06. The motivation for combining these two teachings is contained in Cragun. Cragun teaches methods that allow a visually impaired user to use a graphical user interface (Col. 1, lines 10-14).

B. The two separate portions of Slezak relied upon (i.e. Col. 9, lines 26-48, which corresponds to Fig. 9, and Col. 7, line 62 - Col. 8, line 17, which corresponds to Fig. 6a and 6b) are one invention or one combined teaching. Slezak teaches that different aspects of the invention are illustrated and described with figures 4 through 10 (Col. 6, lines 41-45), and one of ordinary skill in the art can appreciate that these different aspects can work in harmony to obtain the main goal of simulating sound sources for each separate visual cue displayed on the computer monitor (Col. 1,line 51-57; and Col. 10, lines 50-54).

Cragun teaches methods for aiding a visually impaired person to use a graphical user interface, such as one described by Slezak. Cragun, may not teach that his method includes a sound corresponding to the cursor, however it has been shown that Slezak teaches this feature and within the background Cragun teaches prior art has utilized similar features (see Col. 2, line 59 - Col. 3, line 14; and Col. 3, lines 47-64). The combination of Slezak and Cragun teaches a sound source corresponding to the cursor, because Slezak has been shown to teach this feature.

The combination would have been obvious to one of ordinary skill in the art, because Slezak's teachings relate to computer systems with graphical user interfaces,

and Cragun's teachings relate to allowing a visually impaired user to use a graphical user interface.

C. The rendering-position determining means limitation of claim 21 is rejected under 35 USC 103 as being unpatentable over the combination of Slezak and Cragun, wherein Cragun teaches an equivalent to the means (Appellant's specification, Fig. 1, and p. 12, line 28 - p. 13, line 4) as claimed. It is inherent that a memory is used to hold a position of each sound source and a position of the cursor, so that it can "calculate the locational modifiers for each audio signal associated with displayed objects, ... relative to the pointer position", which is a user-controlled pointer (Col. 9, lines 53-56; Fig. 5b, step 116; and Col. 6, lines 50-54). Next, Cragun teaches that a composite audio signal is output (Col. 10, lines 46-50; and Fig. 5b, step 126), which can be three dimensional (Col. 7, lines 39-42).

D. The cursor-control means limitation of claim 21 is rejected under 35 USC 103 as being unpatentable over the combination of Slezak and Cragun, wherein Slezak teaches a cursor control means (Col. 9, lines 26-48), wherein a mouse, joystick, or roller ball, as taught by Slezak, inputs a relative adjustment to the on-screen cursor. A relative adjustment to an on-screen cursor inherently utilizes a memory to store a position, or relative position, which reads on the claimed cursor control means (Appellant's specification, p. 39, line 29 - p. 40, line 12, where control 140 can take any suitable form).

E. The rendering means limitation of claim 21 is rejected under 35 USC 103 as being unpatentable over the combination of Slezak and Cragun, Slezak teaches a rendering means, including audio output devices (Slezak, Fig. 10, unit 294 and the corresponding circles; and Col. 10, lines 5-15). Slezak teaches an audio field where item-representing sound sources (294 and the plurality of circles in Fig. 10) are synthesized at their associated rendering positions and output through speakers. The combination of Slezak and Cragun teaches that the item-representing sound sources and the cursor are output at their associated positions. This reads on the Appellant's disclosure (p. 10, lines 5-8, p. 21, lines 13-16, and p. 40, lines 20-22).

F. The cursor proximity means limitation of claim 21 is rejected under 35 USC 103 as being unpatentable over the combination of Slezak and Cragun, wherein Cragun teaches a cursor proximity means (Col. 7, lines 19-33). The item-representing sound sources are modified by the relative location of the user-controlled cursor, and this reads on the Appellant's disclosure (p. 40, line 14 - p. 41, line 17).

G. Regarding claims 13, 29, and 45, see the rejections under 35 USC 103. The combination of Slezak and Cragun teaches these features. Cragun teaches a non-varying sound comprised of any one of many combinations of pitch, timber, meter, volume, and sound direction, wherein Cragun teaches a three dimensional audio field. One of ordinary skill can appreciate that a non-varying sound, which comprises a sound

direction in a three dimensional field, combined with Slezak's teaching of a cursor sound source, which also has an associated sound direction in a three dimensional space, reads on an element indicative of the general proximity of the cursor to a item-representing sound source. The user can deduce from the two separate sounds an element indicative of the general proximity. Cragun further teaches a second, continuously variable, element indicative of the separation distance.

Regarding claim 17 and 33, see the corresponding rejections under 35 USC 103. The combination teaches a three-dimensional space, such as that taught by figure 10 of Slezak, where it is inherent that a sound source has depth. Figure 10 illustrates that a sound source (294) can be placed along any combination of the vectors (290, 291, and 292). It is immaterial that Cragun's cursor does not emit sound when Slezak teaches a sound source indicating the position of the cursor.

Regarding claim 11, 27, and 40, see the corresponding rejections under 35 USC 103. The combination teaches these features.

H. Regarding claim 27, see the corresponding rejection under 35 USC 103. The combination of **Slezak, Cragun, and Balabanovic** teaches the equivalent of these features, wherein Balabanovic, in view of the combination of Slezak and Cragun, teaches cursor-proximity means that varies one component in correspondence with changes in distance and controlling the other component to be indicative of direction (Col. 13, lines 50-52 and lines 61-64).

Regarding claim 29, see the corresponding rejection under 35 USC 103. The combination of Slezak and Cragun teaches the equivalents of these features. The same reasoning as shown above with respect to claim 13 illustrates this.

Regarding claim 33, see the corresponding rejection under 35 USC 103. The combination of Slezak and Cragun teaches the equivalents of these features. The same reasoning as shown above with respect to claim 17 illustrates this.

I. Regarding claims 4, 7, 11, and 34, see the corresponding rejection under 35 USC 103. The combination is proper because Slezak and Cragun disclose a typical computing environment utilizing a graphical user interface (Slezak, Col. 2, line 58 - Col. 4, line 38 and Fig. 1; and Cragun, Col. 5, line 26 - Col. 6, line 54 and Fig. 1-3), and Balabanovic teaches a method for representing an audio document on a display in a general computing device (Col. 2, lines 20-29 and Col. 3, lines 1-13). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Slezak, Cragun, and Balabanovic for the purpose of creating an easier to use interactive multimedia system, i.e. allowing a visually impaired user to interact with an audio file.

Regarding claim 7, Balabanovic teaches that stereo effects may be used to locate audio within three-dimensional space corresponding to position and this portion was relied upon in the rejection of claim 4. The stereo effect combined with varying loudness, which was also relied upon in the rejection of claim 4, reads on an element indicating the direction of the item-representing sound source from the cursor.

Regarding claim 11, see the corresponding rejection under 35 USC 103. The combination teaches these features, and the examiner has stated the reason for combination. The reason for combination is for the purpose of creating an easier to use interactive multimedia system (Balabanovic, Col. 1, lines 14-39).

J. Regarding claims 10, 26, and 42, see the corresponding rejections under 35 USC 103. The combination of Slezak, Cragun, and McKiel teaches these features, wherein McKiel teaches that sounds emanating from a cursor are modified. McKiel does not disclose item-representing sound sources, but the prior combination of Slezak and Cragun does. The teachings of McKiel do allow the user to hear text-to-speech, or a recorded speech, representation of title bars and pull down menus. It is inherent that the speech is not activated until a mouse cursor has passed over, or stopped on, the relevant portion of the window, and the audible changes in the sound representing the cursor allows a visually impaired person to appreciate the position of these relevant portions. This reads upon the limitations of claim 10, 26, and 42.

K. Regarding claims 12, 28, and 44, see the corresponding rejections under 35 USC 103. The combination of Slezak, Cragun, and Rohen teaches these features, wherein Rohen discloses different methods for indicating that an item-representing sound source and a cursor sound source are coincident. One method is the method of announcing an icon's property when the object is encountered (Col. 3, lines 1-11) and the other is an audible beep when an edge of a window is encountered (Col. 8, lines 19-

37). Both these teachings illustrate the features of claims 12, 28, and 44. It is unnecessary for Rohen to teach all the limitations of claims 12, 28, and 44 when the grounds of rejection relies upon a combination of references. The combination, as a whole, teaches these features, and specifically the prior combination of Slezak and Cragun was shown to teach item-representing sound sources.

The motivation to combine these references is stated in the preceding rejections under 35 USC 103. It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Slezak, Cragun, and Rohen for the purpose of providing accessibility for the handicapped in a graphical user interface (Rohen, Col. 2, lines 46-52). Slezak and Cragun teach similar environments (see section I with respect to claims 4, 7, 11, and 34), and Rohen is also concerned with a similar computer environment (Col. 3, line 43 - Col. 4, line 40).

L. Regarding claim 28, see the corresponding rejections under 35 USC 103. The combination of Slezak, Cragun, and Rohen teaches these features, wherein the Appellant states that the means-plus-function limitation encompassed by claim 28 is:

> "When the cursor coincides with a sound source (at least in terms of their direction from a user reference location), the unit 145 sets the cursor-sound parameter to a further value with the sounding effector 74 translates to another unique sound *such as rapid beeping.*" (emphasis added) (p. 41, lines 19- 21)

The combination of Slezak, Cragun, and Rohen teach a unique sound, wherein Rohen teaches a beep. This is an equivalent to this one example, outlined above, in the Appellant's specification.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Daniel Sellers

Conferees:

SINH TRAN
SUPERVISORY PATENT EXAMINER

VIVIAN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Sinh Tran